

Application Serial No. September 9, 2005
Reply to Office Action of March 25, 2005

PATENT
Docket: CU-3356

REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Claims 1-9 are pending in the present application before this amendment. By the present amendment, Claims 1, 6, and 8 have been amended. No new matter has been added.

Applicants note errors in the Office Action that incorrectly indicates Claim 1-8 as pending (instead of Claim 1-9 as originally filed) and "p=" (instead of "p+" as originally filed). Appropriate corrections by the Examiner are respectfully requested.

Claims 1 and 8 stand objected to for containing informalities. Appropriate amendments have been made, and withdrawal of the objections is respectfully requested.

Claims 1 and 6 stand rejected under 35 U.S.C. § 112, ¶2 as being indefinite. Appropriate amendments have been made, and withdrawal of the rejections is respectfully requested.

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,093,629 (Chen) in view of U.S. Patent No. 6,727,540 (Divakaruni). The "et al." suffix, which may appear after a reference name, is omitted in this paper.

Applicants respectfully disagree. Neither Chen nor Divakaruni teaches or suggests Claim 1, as amended, whether the references are considered individually or in combination.

The presently claimed invention solves the prior art problems of high bit line contact resistance that causes waste in power consumption (see Specification page 1, lines 14-19; and page 2, lines 7-14). This prior art problems are still not solved by any

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known conventional technique that proposes first increasing the impurity concentration of the p+ source/drain junction and performing annealing at a high temperature, which in turn increases the contact resistance.

The prior art problems have been solved by the presently claimed invention **first** implants ions to form source/drain junction regions (Specification page 5, lines 3-11) and **second** implants additional ions again into the source/drain junction regions (Specification page 6, lines 1-22), and then carrying out a heat treatment as described in the Specification page 6, line 22 to page 7, line 11.

The cited Chen reference is **not** all about the presently claimed invention.

As well summarized in Chen col. 1, lines 7-15 and FIG. 1, Chen is about forming a PMOS device 6 and an NMOS device 8 separated by a field oxide layer 16 on the same wafer 10. Therefore, Chen teaches first forming p-contact openings 53, 54 of the PMOS device and implanting ions while the n-contact openings 63, 64 of the NMOS device is covered up (see Chen col. 3, lines 25-39; col. 4, lines 9-44). After implanting boron ions through the p-contact openings 53, 54, Chen then would open up the n-contact openings 63, 64 while covering up the p-contact openings 53, 54 in order to perform the boron ion implantation through the n-contact openings 63, 64.

Chen therefore fails to teach or suggest Claim 1 according to which one or more of the source/drain junctions are opened up again by the second mask pattern 250 (FIG. 3) while covering up the gate 110 to perform **additional** ion implantation. Chen teaches or suggests **no** additional ion implantations in the regions 26 or 46 in FIG. 2. To the contrary, Chen teaches sequentially implanting ions, first to the regions 26 and then to the regions 46. This is substantially different from the presently claimed invention.

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Chen discloses **sequentially** forming a NMOS device and a PMOS device on a same wafer utilizing conventional ion implantation techniques. Unlike the presently claimed invention, Chen does not teach or suggest again performing the ion implantation on the source/drain junctions in order to minimize the contact resistance.

Accordingly, even if Chen is combined with any other cited references such as Divakaruni, Sung, Kunitou, Huang, and/or Lee, not every limitation of Claim 1 is taught or suggested. Accordingly, Claim 1 (and all dependent Claim 2-9) are respectfully considered to have overcome the rejections, and an indication of allowable subject matter is respectfully requested.

For the reasons set forth above, Applicants respectfully submit that Claims 1-9 pending in this application are in condition for allowance over the cited references. This amendment is considered to be responsive to all points raised in the Office Action. Accordingly, Applicants respectfully request reconsideration and withdrawal of the outstanding rejections and earnestly solicit an indication of allowable subject matter. Should the Examiner have any remaining questions or concerns, the Examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,



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